ANNALS OF NATURE

OR

ANNUAL SYNOPSIS

OF NEW GENERA AND SPECIES OF ANIMALS, PLANTS, &c.

DISCOVERED IN NORTH AMERICA.

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III CLASS. ERPETIA.—THE REPTILES.

17. *Necturus maculosus*. Olive brown, covered with large irregular and unequal black spots; tail elliptical, obtuse, blackish, margin redish, two-fifths of total length; a longitudinal furrow on the back, toes red.—My genus *Necturus* (70 N. G. An.) is distinguished from *Triturus* by having teeth, four toes to all the feet, and the external gills persistent to a late period The *Salamandra alleganiensis* belongs to it. The present species is found in the Ohio, vulgar name water puppet or scorpion eel. Length over one foot, very slovenly; body covered with a mucous matter. Jaws obtuse with thick lips and small acute teeth, the upper jaw longer. Eyes very small round brown; ears behind them, large round, with a furrow. Three external gills, the anterior black, the second brown, and the posterior reddish. Toes small, rounded, obtuse, distinct, the lateral ones smaller.

18. *Necturus luteus*. Entirely yellow, unspotted; tail obtuse, one-half of total length.—It is similar to the foregoing, found also in the Ohio, length about two feet, vulgar names yellow eel or yellow puppet or yellow alligator.

19. *Necturus phosphoreus*. Entirely brown, unspotted; tail obtuse, nearly one-half of total length, gills red.—Another species from the Ohio, its gills shine in the night of a firy red colour. Total length eighteen to twenty inches. Vulgar names, Night Alligator, Brown Puppet, Alligator Eel, &c. Many other species of Salamanders belong to this genus.

20. *Triturus hypoxanthus*. Brown above, yellow beneath; tail acute, slightly compressed, one-half of the total length.—My genus *Triturus* is the same as the *Triton* of Dumeril, there being already another genus of animals called *Triton*; it differs from the *Salamandra* by having a compressed tail. This species is found in Kentucky, where it is called Ground Puppet, because it is often found in the lobster's holes in moist ground; total length six to eight inches.

21. *Triturus fuscus*. Entirely brown, rather olivaceous above and paler beneath; a furrow on the rump; tail acute, slightly compressed, one-third of total length.—I found it in the northern parts of the state of New York, in small brooks. Vulgar name Black Ebbet. Length three or four inches. Eyes large and black, iris round and brown. Upper jaw longer as in all the genus and without teeth. Posterior feet with five toes as in all the species, the lateral ones smaller. I communicated a description of this animal, together with many other reptiles from

the state of New York, to the Philosophical Society of New York, ever since 1816.

22. *Triturus viridescens*. Olivaceous green above, with some faint brown spots, back carinated; yellow beneath with small brown dotts: head unspotted, green above, yellowish beneath: an irregular row of bright and gilt red dotts along the sides: tail longer than the body, acute, very compressed.—A fine species found in Lake George, Lake Champlain, the springs and brooks of the neighborhood, &c. Total length four inches. It must form a peculiar subgenus *Diemictylus*, distinguished by the fore feet semipalmate with four equal toes, the posterior with only three toes and two lateral knobs; jaws nearly equal, eyes elliptic, &c. The iris is oblong, rather obliqual, gilt, with a longitudinal brown streak; eyes black. Its vulgar name is Green Ebbet.

23. *Triturus nebulosus*. Brown above, clouded with faint and irregular grey spots, a row of them rounded on each side, fulvous beneath, back convex, tail carinated, obtuse, one-third of total length.—It is found near New York, at Harlem and on Long-Island. Length two or three inches.

24. *Triturus miniatus*. Entirely of a red or orange colour, covered with small brown granular dotts and some black dotts; back carinated with a double row of scarlet dotts, surrounded by a black ring. tail as long as the body, carinated, obtuse.—A very pretty species, common in the states of New York, New Jersey, Connecticut, Vermont, &c. Vulgar name Red Lizard or Red Ebbet. It is commonly of the colour of red lead, but varies with an orange or saffron colour. Length two to four inches. Head oval obtuse flat, without dotts; eyes blackish with an oblong and gilt iris. It has almost all the characters of the sub-genus *Diemictylus*, but differs yet from it, by having the toes of the fore feet free and unequal, the lateral ones much shorter whence it may form another sub-genus, *Notophthalmus* There are at least thirty species of this genus in the United States. I know already well twenty of them.

25. *Ranaria (Rana L.) melanota*. Back olivaceous black, a yellow streak on the sides of the head, chin throat and inside of the legs whitish, with black spots; belly white, without spots.—A pretty frog, living in Lake Champlain and Lake George; vulgar name Black Frog: total length two and and half inches. Eyes large, iris gilt violet. The anterior feet have four free toes, and the hind feet five palmated ones.

26. *Crotulurus (Crotalus L.) catenatus*. Brown above, with a chain-like row of white spots on the back; belly white, clouded with black.—Discovered by Mr. Bradbury, on the upper Missouri. Length eighteen inches, one hundred and forty-four abdominal scales and twenty-seven candal scales.

27. *Crotalurus viridis*. Green with several rows of brown oblong spots, white belly.—Found also by Mr. Bradbury, on the Missouri. It was two feet long, slender snd with only three rattles.

28. *Crotalurus cyanurus*. Body yellowish, with broad transversal brown bands, back grey between them, head fulvous, a black oblong spot under the chin; tail black above, blue beneath.—It is found in Kentucky, Tennessee, Illinois, Missouri, Indiana, &c. Length about five feet. The hogs will not eat it. The name of *Crotalus* being radical of *Crotalaria* &c. I have altered it to *Crotalurus*.

29. *Coluber Kentukensis*. Back olivaceous brown, with four rows of brown spots, carinated scales and a central longitudinal streak bluish green; sides bluish green, with two rows of brown spots; belly whitish, unspotted: two hundred abd. scales; tail one-fifth of total length, with fifty pairs of scales.—Length three feet; head black above, white beneath. Common in Kentucky; called Garter snake, like all the snakes with streaked backs

30. *Coluber similis*. Back blackish, with a central yellowish streak, having two alternate rows of brown spots; sides yellowish-white, spotted with black, belly white, each scale with two lateral black spots: tail one-fourth of total length. Abd. sc. 165; caudal 60 pairs.—Another species belonging to the streaked snakes, of which I know ten or twelve species in the United States. Length twenty inches; dorsal streak extending over the tail, pale fulvous posteriorly. Dorsal scales carinated.—Found in Kentucky.

31 *Coluber xanthenipus*. Blackish above, with some faint brown lines; white beneath, with a longitudinal and yellowish streak frow the neck to the vent, and spotted on the sides with red, marginated of black: tail two-sevenths of total length, with eighty caudal pairs of scales, 140 abdominal scales.—I found it near Newburgh, state of New-York; length twenty-five inches. Vulgar name water

black snake. It likes to go in the water. Dorsal scales carinated. Tail brown, having at the end a short obtuse and compressed horn, as most of the snakes.

32. *Coluber tesselatus.* Grey, checkered like a chess board with red spots, and some black ones intermixed.—Length three feet. This beautiful snake was found at Louisville in a hogshead of sugar imported from Louisiana. It is called calli-coe snake in Louisiana.

33. *Coluber fulviventer.* Entirely black above, and brick-red beneath, throat yellow; dorsal scales carinated; about two hundred abdominal scales, and seventy pairs of caudal; tail one fifth of the total length.—Length nearly three feet; it has large teeth, but no fangs. Vulgar name chicken snake Found in Kentucky, Ohio, Indiana, &c.

34. *Anguinus (Anguis L.) fasciatus.* Yellowish-white, with broad brown rings, marginated of black on the back, and on the sides a row of small intermediary bands like spots; head mixed with brown.—Length one foot, cylindrical; scales smooth, hexagonal, head with large scales above and flattened. It lives near Lake George and Lake Champlain: vulgar names, eel snake, ring snake, worm snake.

IV CLASS. ICHTHYOSIA.—THE FISHES.

II. N. G. HEMIPLUS. Abdominal. Body oblong, one dorsal fin opposite to the vent; head small, mouth puckered, toothless, looking upwards, lower lip longer; gill cover double; abdominal fin with only five rays, and a scaly lateral appendage at the base.—It belongs to the family *Cyprinidia*, it differs from *Cyprinus* by the mouth and abdominal fins, which have appendages like the real G. *Salmo*, *Clupea*, *Sparus*, *&c.* This striking character has been neglected by all the Ichthyologists; I wish to draw their attention to it. The generic name means half-double.

35. *Hemiplus lacustris.* Silvery, with gilt shades, back and top of the head brownish; lateral line curved downwards, a second and upper one straight reaching the dorsal fin only; all the fins olivaceous tipped with brown: dorsal fin nine rayed, anal falcate fourteen rayed, tail forked.—I have already mentioned this small fish in the Amer. M. Mag. 1st Dec. of new species, sp. 7, vol. 2. p. 121, under the name of *Cyprinus hemiplus.* It is found in Lake George, Lake Saratoga, and Lake Champlain. Length three to six inches. Pect. 14. C. 24. Vulgar names Shiner or Minny.

36. *Cyprinus hæmatopterus.* Back olivaceous brown, sides coppered, pale beneath; head black, tuberculated above and on the lower lip, gill cover reddish with a black spot: lateral line curved downwards at the base; tail forked, lower fins bloody red, anal and dorsal nine rayed, this last in the middle of the back.—A pretty fish called red-fin chub, not uncommon in the streams falling into the Hudson. Length five or six inches; iris gilt, mouth large terminal toothless, jaws equal; all the fins olivaceous, marginated or tipped with bloody red, the pectoral and abdominals are entirely red, the first ray of the pectoral is bluish. P. 15. abd. 9. C. 20. Eyes black.

37. *Cyprinus trivittatus.* Back and fins olivaceous, a brown longitudinal band on the back, a broad bluish band on each side above the lateral line, which is nearly straight; belly white with gilt shades, head brown, rather rough above, gill cover gilt: tail forked, anal and dorsal fins with nine rays, this last in the middle of the back.—Similar to the foregoing and to my *C. vittatus* in many points. Iris gilt brown. Found in the Fishkill and Wallkill creeks, state of New-York.

38. *Salmo pallidus.* Lower jaw much longer, body cylindrical; grey crowded with irregular rounded pale yellowish spots, gills silvery, lateral line ascending at the base, tail forked brownish, dorsal fin brown with twelve rays, adipose fin olivaceous, lower fins white, the anal with twelve rays.—Common in Lake Champlain, Lake George, Lake Seneca, &c: vulgar names salmon trout, white trout, or lake trout, &c; length two to four feet. Very good food, flesh reddish.

Biographical References on

CONSTANTINE SAMUEL RAFINESQUE-SCHMALTZ
(1783-1840)

Call, R. E. 1895. The life and writings of Rafinesque. John P. Morton & Co., Louisville, Kentucky. 227 p.

Fitzpatrick, T. J. 1911. Rafinesque, a sketch of his life with bibliography. The Historical Department of Iowa, Des Moines, Iowa. 241 p.

Merrill, E. D. 1949. Index Rafinesquianus; the plant names published by C. S. Rafinesque with reductions, and a consideration of his methods, objectives, and attainments. Arnold Arboretum of Harvard University, Jamaica Plains, Massachusetts. 296 p.

Rafinesque Memorial Papers. 1942. *In* Transylvania College Bulletin, volume XV, number 7, 108 p. (Herpetological section by W. M. Clay)

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